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Citation: Principi, T., et al. "Effect of Oxygen Desaturations on Subsequent Medical Visits in Infants Discharged from the Emergency Department with Bronchiolitis." *JAMA Pediatrics*. 2016;170(6):602-608.

Clinical Question: Does oxygen desaturation provide a prognostic indicator for patients with mild bronchiolitis?

Introduction: Bronchiolitis is the most common lower respiratory tract infection in infants and children ≤ 2 years of age and is the leading cause for hospitalization in children < 1 year of age.

Methods: This was a prospective study of previously healthy infants discharged from a pediatric ED in Toronto with mild bronchiolitis. The authors compared unscheduled medical visits within 72 hours between patients with oxygen desaturations (defined as at least one documented oxygen desaturation to $< 90\%$ lasting at least 1 minute) during home pulse ox monitoring and those without.

Results: Of 118 infants (mean age, 5 months), 75 (64%) had at least one desaturation at home (mean monitoring period, 20 hours). Of these, 59 (79%) had desaturations to $\leq 80\%$ and 29 (39%) had desaturations to $\leq 70\%$. The rate of unscheduled visits for bronchiolitis symptoms was similar in the two groups (24% and 26%), including in those with major desaturations (defined as ≥ 3 desaturations to $< 90\%$; saturation $< 90\%$ for 10% or more of the time; or saturation $< 90\%$ lasting ≥ 3 minutes). Most desaturations occurred during sleep or feeding.

Discussion: Brief, transient O_2 desaturations did not predict return visits within 72 hours of ED discharge. Transient oxygen desaturation is common, even in healthy infants. In infants with mild bronchiolitis, transient oxygen saturation alone should not be used to determine disposition. Infants with bronchiolitis who have an episode of hypoxemia should be monitored in the ED for at least 4 hours and given supplemental oxygen if they have either continuous hypoxia or persistent retractions or inability to feed due to respiratory distress.
